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Report On

PROJECT NO. 42 - LETTER REPORT ON TEST OF PACK, FIELD, CARGO;  
PACK, FIELD, COMBAT; AND SUSPENDERS, PACK,  
FIELD, CARGO AND COMBAT

INFORMATION COPY

Action copies have been forwarded to  
Office of the Surgeon General, Occupa-  
tional Hygiene Branch for approval and  
execution.

Project No. 42

29 August 1944

8/29/44







# ARMORED MEDICAL RESEARCH LABORATORY

Fort Knox, Kentucky

Project No. 42  
File 727 SPMEA

29 August 1944

1. PROJECT: No 42 - Letter Report on Test of (Pack, Field, Cargo;)  
(Pack, Field, Combat;) and Suspenders, (Pack, Field, Cargo and Combat.)

a. Authority: Letter, Office of The Surgeon General, 8 July 1944.

b. Purpose: To determine the physiologic effects of Packs, Field, Cargo; Packs, Field, Combat; and Suspenders, Pack, Field, Cargo and Combat, upon the men wearing them.

## 2. DISCUSSION:

a. Thirty-six (36) of the subject items were issued to lance corporals and sergeants in training at the Armored Replacement Training Center, and were carried by them on an overnight problem consisting of a five (5) mile road march, night bivouac, and five (5) mile road march returning. Fourteen (14) of the men carried the combat portion of the pack only, while twenty-two (22) men carried the full pack.

b. The combat pack, when carried alone, was surmounted by a blanket roll, and contained toilet articles, C and K rations, change of socks and underclothing, and a raincoat. The cargo pack when carried in addition, contained a blanket, shelter half, and additional clothing. It was estimated that the cargo and combat packs together weighed approximately thirty-five (35) pounds.

## 3. OBSERVATIONS:

a. Whereas none of the men wearing the test pack complained of soreness in the clavicular region, almost all of the men carrying the pack, canvas, field, 1936, as controls, had some redness and soreness of this region.

b. It was the opinion of all subjects that the test pack was to be preferred to any pack previously worn by these troops.

c. Most of the subjects agreed that the test packs failed to ride as high on the shoulders as would be desired. In many instances the upper portion of the pack was several inches below the last cervical spine. When this occurred the sensible weight of the pack was appreciably increased. Observers from the Jeffersonville Quartermaster Depot, who were





present at the time of the test, gave assurance that an improved shoulder buckle is available to eliminate some of the suspender slippage which is in part responsible for the failure of the pack to maintain its position high on the back.

d. All men who carried the combat pack with the blanket and shelter half rolled in a "U" shape around the superior and lateral surfaces of the pack, pointed out that the projection of the blanket interfered with carrying the rifle. The rifle strap was caused to ride over the head of the humerus and to stand away from the side of the body by several inches. Frequent adjustment was necessary to prevent the rifle from falling off the shoulder.

#### 4. COMMENT:

It does not seem to be mechanically possible to keep any pack riding at the optimal height on the back when supported by suspenders of the present type. Some lessening of the tendency for the pack to drop down and the cartridge belt to pull up in front might be achieved by crossing the suspender straps over the chest, instead of having them hang vertically from the shoulder to the cartridge belt as at present.

#### 5. CONCLUSIONS:

a. The pack, field, combat; pack, field, cargo; and suspenders, pack, field, cargo and combat, are superior to the packs now in use inasmuch as they are less likely to cause shoulder irritation and pain.

b. The common objection that the pack rides low on the back has not been overcome; it seems unlikely, even with the inclusion of the new shoulder buckle, that it will be entirely prevented.

c. The excess width of the blanket roll and shelter half when attached to the pack, combat, forces the slung rifle away from the body, and necessitates frequent adjustment to keep it on the shoulder.

#### 6. RECOMMENDATION:

a. That consideration be given to designing the pack suspenders so that they cross in front of the chest before attaching to the cartridge belt. By this means it is possible that the pack might be secured higher on the back, its sensible weight diminished, and the objectionable upward pull on the cartridge belt in front reduced.



b. That six (6) pack suspenders, designed to cross the chest, be fabricated and sent to the laboratory for test.

Submitted by:

Captain Arthur Freedman, M. C.

APPROVED

Willard Machle

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